

	200°C platen	400°C platen
Deposition rate	28 nm/kW min	29 nm/kW min
Resistivity (micro ohm cm ⁻¹)	181	181
Film Stress (dynes cm ⁻²)	1.2 E10	2.5 E10

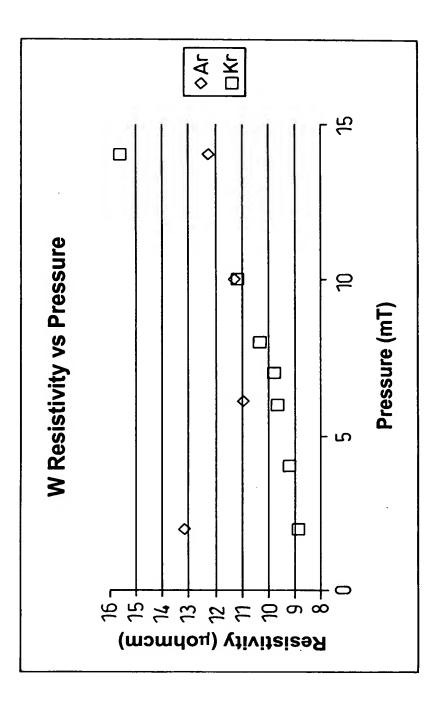
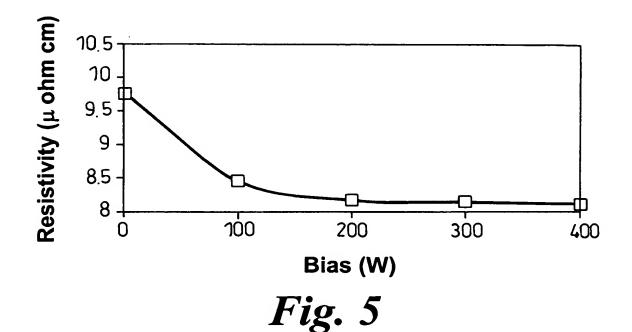


Fig. 4



330 mm diameter target

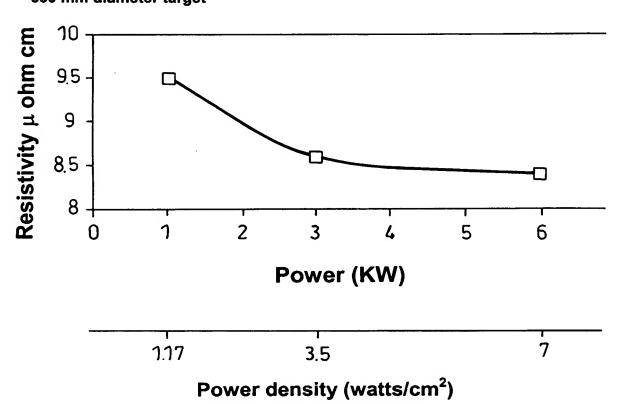


Fig. 6

Tungsten nitride	Ar sputter gas	Kr sputter gas
Deposition rate	28nm/kW min	45nm/kW min
Resistivity	181	171
(micro ohm cm ⁻¹)		
Film stress	1.2 E10C	1.9 E9T
(dynes cm ⁻²)	Compressive	Tensile

METHODS OF FORMING TUNGSTEN OR TUNGSTEN CONTAINING FILMS Application No. NEW - Attorney Docket No. WLJ.103 Inventors: Paul Rich et al.

Gas	DC Voltage	DC Amps	Pressure mT
Ar	358	3.0	9.9
Kr	427	2.4	6.3

Tungsten deposited

	-		-					ပ	
Film Stress	4.3 E9		3.1 E9					3.5 E9	
Platen Temp.	400°C		400°C					400°C	
Pressure Target Power	6KW		екм					6KW	
Pressure	2mT		1.9mT					6mT	
Gas	35sccm	Ķ	20sccm	Kr mixed	with	15sccm	Ā	200sccm	Ar